## **Recovery Plan Action Status**

Plan Name: Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area

Plan Status: Final Plan Date: 30-Sep-98 Lead Agency: USFWS

Lead Office: Sacramento Fish And Wildlife Office 414-6600)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus iiburonensis), Metcalf Canyon ewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus elenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum atilobum), Coyote ceanothus (Ceanothus (Ceanothus (Ceanothus ierrisae), White-rayed pentachaeta (Pentachaeta bellidiflora), Presidio clarkia (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thornmint (Acanthomintha obovata ssp. dudtonii), Santa Clara Valley dudleya (Dudleya (Dudleya (Dudleya (Dudleya (Dudleya (Dudleya (Streptanthus dudleya (Dudleya (Dudleya (Streptanthus dudleya (Dudleya (Dudleya (Dudleya (Streptanthus dudleya (Dudleya (Dudleya (Streptanthus dudleya (S	2	1.1	Establish cooperative programs with participants from the public and private sector	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game	Other: Information and Education	Internal Technical Assistance	Cooperative program established with Stuart Weiss and San Mateo Parks for reintroduction of Bay Checkerspot into Edgewood Park.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly	2	1.2.1	Develop and implement outreach	Not Started			U.S. Fish and Wildlife Service	Other: Information and Education	Internal Technical Assistance	
(Euphydryas editha			plans				Wilding Service	and Education	Assistance	
bayensis), Tiburon			piaris							
mariposa lily										
(Calochortus										
tiburonensis), Metcalf Canyon										
ivietcair Canyon										
jewelflower										
(Streptanthus										
albidus ssp.										
albidus), Pennell's										
bird's-beak										
(Cordylanthus										
tenuis ssp.										
capillaris), San										
Mateo woolly										
sunflower										
(Eriophyllum										
latilobum), Coyote										
ceanothus										
(Ceanothus										
ferrisae), White-										
rayed pentachaeta										
(Pentachaeta										
bellidiflora),										
Presidio clarkia										
(Clarkia										
franciscana),										
Fountain thistle										
(Cirsium fontinale										
var. fontinale),										
Tiburon paintbrush										
(Castilleja affinis										
ssp. neglecta),										
Marin dwarf-flax										
(Hesperolinon										
congestum),										
Tiburon jewelflower										
(Streptanthus										
niger), San Mateo										
thornmint										
(Acanthomintha										
obovata ssp.										
duttonii), Santa										
Clara Valley										
dudleya (Dudleya										
setchellii)		1							1	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus tiburonensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum latilobum), Coyote ceanothus (Ceanothus (Ceanothus ferrisae), White-rayed pentachaeta bellidiflora), Presidio clarkia (Franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thornmint	Action Priority #	Action #  1.2.2	<b>Description</b> Develop and	Ongoing Not Current	FY 1995 - FY 1999	Date		Work Type Other	Internal Technical Assistance	Action Comments
(Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setchellii)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lilly (Calochortus tiburonensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum latilobum), Coyote ceanothus (Ceanothus ferrisae), Whiterayed pentachaeta (Pentachaeta bellidifflora), Presidio clarkia (Clarkia franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thornmint (Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setchellii)	2	1.2.3	Encourage and assist counties and landowners to develop and implement Habitat Conservation plans	Ongoing Current	FY 1995 - FY 1999		San Mateo County, California, Stanislaus County, California, Marin County, California, San Francisco County, California, Santa Clara County, California, Contra Costa County, California, Alameda County, California, Sonoma County, California, Sonoma County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Planning	Internal Technical Assistance	Santa Clara County is developing a HCP.
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae)	1	2.1.16	Secure and protect serpentine habitat in Anderson Reservoir area/county park area (Santa Clara County) for multiple species	Not Started			City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement	Internal Field Assistance	Precise extent and location need clarification.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.20	Secure and protect serpentine habitat in Kirby area (S. of Metcalf Rd.) (Santa Clara County) for multiple species	Ongoing Current	FY 1995 - FY 1999		City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Other	Internal Field Assistance	
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.21	Secure and protect serpentine habitat in Metcalf area (N. of Metcalf Rd.) (Santa Clara County) for multiple species	Ongoing Current	FY 2000 - FY 2004		City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Management: Planning	Internal Field Assistance	2005-548 acres purchased by VTA, managed by Santa Clara Co Open Space Authority. Mapping, containment and control of barbed goat grass.
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus)	1	2.1.22	Secure and protect serpentine habitat in San Felipe area (Santa Clara County) for multiple species	Not Started			City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Easement	Labor type not yet selected	250 acres 15 to be put aside as part of development along 101.
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.23	Secure and protect serpentine habitat in Silver Creek Hills (Santa Clara County) for multiple species	Ongoing Current	FY 1995 - FY 1999		City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Easement	Labor type not yet selected	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.26	Secure and protect serpentine habitat west of San Martin area (including Hayes Valley / Lions Peak) (Santa Clara County) for multiple species	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Easement	Internal Field Assistance	
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	1	2.1.28	Secure and protect serpentine habitat on Tulare Hill (Santa Clara County) for multiple species		FY 1995 - FY 1999		City of San Jose, California, Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Acquisition: Easement	Internal Field Assistance	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot	1	3.1	Develop and	Ongoing Current	FY 1995 - FY 1999		California	Management:	Internal Field	Staff from
butterfly			implement				Department of	General	Assistance	Creekside Center
(Euphydryas editha			appropriate				Parks and			for Earth
bayensis), Tiburon			management				Recreation,			Observation
mariposa lily			actions at multiple				California			working with Santa
(Calochortus			sites, for multiple				Department of			Clara Open Space
tiburonensis),			species				Transportation, City			Authority to
Metcalf Canyon			'				of San Jose,			develop new
jewelflower							California, City of			monitoring protocol
(Streptanthus							Tiburon, California,			for Dudleya
albidus ssp.							East Bay Regional			setchellii.
albidus), Pennell's							Park District, Marin			
bird's-beak							County Open			Invasive plants are
(Cordylanthus							Space District,			being removed
tenuis ssp.							Marin Municipal			from Cirsium
capillaris), San							Water District,			fontinale var.
Mateo woolly							Midpeninsula			fontinale
sunflower							Regional Open			populations at
(Eriophyllum							Space District,			Stulsaft Park and
latilobum), Coyote							Rancho Santa Ana			CalTrans property
							Botanic Garden,			near Woodside
ceanothus (Ceanothus							San Francisco			Glens.
										Gieris.
ferrisae), White-							Water Department,			
rayed pentachaeta							Tiburon Landmark			
(Pentachaeta							Society, University			
bellidiflora),							of California at			
Presidio clarkia							Berkeley, San			
(Clarkia							Mateo County,			
franciscana),							California,			
Fountain thistle							Stanislaus County,			
(Cirsium fontinale							California, Marin			
var. fontinale),							County, California,			
Tiburon paintbrush							San Francisco			
(Castilleja affinis							County, California,			
ssp. neglecta),							Santa Clara			
Marin dwarf-flax							County, California,			
(Hesperolinon							Contra Costa			
congestum),							County, California,			
Tiburon jewelflower							Alameda County,			
(Streptanthus							California, Sonoma			
niger), San Mateo							County, California,			
thornmint							National Park			
(Acanthomintha							Service, U.S. Fish			
obovata ssp.							and Wildlife			
duttonii), Santa							Service, California			
Clara Valley							Department of Fish			
dudleya (Dudleya					1		and Game, Private			
setchellii)					1		landowners			

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Tiburon mariposa lily (Calochortus tiburonensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Pennell's bird's-beak (Cordylanthus tenuis ssp. capillaris), San Mateo woolly sunflower (Eriophyllum latilobum), Coyote ceanothus (Ceanothus ferrisae), Whiterayed pentachaeta (Pentachaeta bellidiflora), Presidio clarkia (Clarkia franciscana), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Marin dwarf-flax (Hesperolinon congestum), Tiburon jewelflower (Streptanthus niger), San Mateo thornmint (Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.1	Establish a survey program and protocol for all species covered in the plan	Ongoing Current	FY 2007		California Department of Parks and Recreation, California Department of Transportation, City of San Jose, California, City of Tiburon, California, East Bay Regional Park District, Marin County Open Space District, Midpeninsula Regional Open Space District, Midpeninsula Regional Open Space District, Rancho Santa Ana Botanic Garden, San Francisco Water Department, Tiburon Landmark Society, University of California at Berkeley, San Mateo County, California, San Francisco County, California, San Francisco County, California, Santa Clara County, California, Santa Clara County, California, Contra Costa County, California, Alameda County, California, Sonoma County, California, Santa Clara County, California, Contra Costa County, California, Santa Clara County, California, Contra Costa County, California, National Park Service, U.S. Fish and Game, Private landowners	Research: Population Surveys	Graduate Student	Monitoring protocol has been established at SF Presidio by GGNRA for Clarkia franciscana and Lessingia germanorum
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.2.32	Conduct surveys in historic and potential habitat in Calero Reservoir area (Santa Clara County) for multiple species	Not Started			U.S. Federal Aviation Administration, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	Mostly private lands

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	4.2.33	Survey historic and potential habitat at Coyote Ridge area (Santa Clara county) for multiple species	Partially Complete	FY 2005		Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game, Private landowners	Research: Population Surveys	Graduate Student	2005-Transition Zone between S. Albidus and Albidus and S. Albidus peramoenus mapped. 2005-2006- Comprehensive mapping of Dudleya on selected mitigation parcels (100oc) completed-more mapping planned elsewhere. 2006-C. Affinis neglecta pops mapped in detail. 135 plants at southern pop, about 1000 plants in northern canyon on 0.25 ac.  Annual survey of Bay Area Checkerspot Butterfly. Conducted at UTC, Kirby Canyon, and Young Ranch.
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus)	3	4.2.36	Conduct surveys in historic and potential habitat at Lexington Reservoir area for Streptanthus albidus albidus	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	1	4.2.41	Survey historic and potential habitat in the San Martin area (Santa Clara County) for multiple species	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	2	4.2.43	Conduct surveys in historic and potential habitat Tulare Hill area (Santa Clara County) for multiple species	Ongoing Current	FY 2000 - FY 2004		Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Population Surveys	Graduate Student	2001-2006-D. Setchellii mapped MMEC ecological preserve and PG&E land. No S. Albidus Albidus found, plans for reintroduction explored informally. Since 2004 annual surveys of listed plants and bay checkerspot butterfly conducted.
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	5.24	Conduct research on vegetation management methods in selected areas county-wide (Santa Clara County) for multiple species	Ongoing Current	FY 2000 - FY 2004		Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), Santa Clara Valley dudleya (Dudleya setchellii)	1	5.25	Conduct surveys in historic and potential habitat near Niles (alameda County) for Streptanthus albidus peramoenus	Not Started			U.S. Fish and Wildlife Service	Research: Habitat Status	Graduate Student	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Bay checkerspot butterfly (Euphydryas editha bayensis), Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Coyote ceanothus (Ceanothus ferrisae), Fountain thistle (Cirsium fontinale var. fontinale), Tiburon paintbrush (Castilleja affinis ssp. neglecta), San Mateo thornmint (Acanthomintha obovata ssp. duttonii), Santa Clara Valley dudleya (Dudleya setcheliii)	2	5.26	Conduct necessary research at selected areas county-wide in Santa Clara County on restoring native habitats on serpentine and non-serpentine soils (multiple species)	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	
Metcalf Canyon jewelflower (Streptanthus albidus ssp. albidus), Santa Clara Valley dudleya (Dudleya setchellii)	2	5.34	Conduct necessary research at San Martin area (including Hayes Valley / Lions Peak) (Santa Clara County) for multiple species	Not Started			Santa Clara County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Management Techniques	Graduate Student	